ORB Report

Wednesday 2003 May 07

- **Reco Status**
  - All Data from April 21 to ~May 6 reprocessed with p13.05 or p13.06
    - Except for June 18-Aug 15 2002 (Runs 157476-161977) with L1/L2 Calorimeter Event Mixing
  - Farms: drained queues on Eve May 6th for Tue/Wed upgrade of 350 farm nodes
    - Resumed processing on Wednesday evening
  - Peak farm capacity is ~15 Million events/week
    - D0 recorded 48 Mevts in April 2003 - including Mark&Pass
  - Reco version p14.02 should be ready to be tested on farms by early next week
    - Better tracking algorithm, fixed CFT/SMT alignment, a fix for L1/L2 Calorimeter Event Mixing from Summer 2002, corrected ICD sampling weights, etc.

ORB Recommendation

1. We have limited reprocessing capabilities
   - Univ Michigan general purpose computing about ready to go, but there will be no certified Reco before June 2nd
   - On CAB, the Calib DB Server causes long delays (>0.5 hr) for pick event samples
2. Will need to reprocess 2003 post-shutdown data as well as data taken June 18 - August 15, 2002
   - Summer 2002 has never been reprocessed with p13+
3. Should not add another month of data to be reprocessed with p14.02
   - Summer conference data set cut-off is June 14th

- Put P14.02 on farms ASAP
  - Decouple resource decisions from conference deadlines

Monte Carlo Production Status

- Currently using P13.08 and storing dØgstar output
- Problem with throughput
  - Over last 5 weeks farms have generated ~350k evts/wk
    - previously had done ~600k evts/wk
- Resource problems: manpower, software, hardware
  - Lancaster & NIKHEF have many old processors w/256 Mb memory
    - DØreco needs 400 Mbytes
  - TATA cannot put MC events into SAM
  - Prague has incompatibility problems
    - Libraries & includes do not work with shared systems
  - Administrative burden
    - Iain is phasing out, but no clearly visible replacement
  - Also events being generated are more complicated.
- Grid tools will allow D0 to use other farms
  - Will be at least a month before they are ready

MC Production Status & Requests

- W/Z (DZERO sample) 90% done
- B ID – 80K running, need P14
- JES – 250 K done, 20 K running
- NP – 235 K done, more to be submitted
- TOP group –running own ALPGEN
- Higgs group – 770 K done, 50 K running
  - 100 K hung & 250 K more requested
- QCD – 500 K done
- B Physics – waiting for P14

Workshop 2003@Beaune

A Workshop focused on two important issues:

Data Quality & Remote Computing

Comprehensive Plan for ensuring Data Quality in D0

Strategy and Detailed Plan for Implementation and Use of Remote Computing by D0

Successful & useful outcome requires:

- Preparation
- Structured Program
- Participation
- Creativity

and….a little 🍸

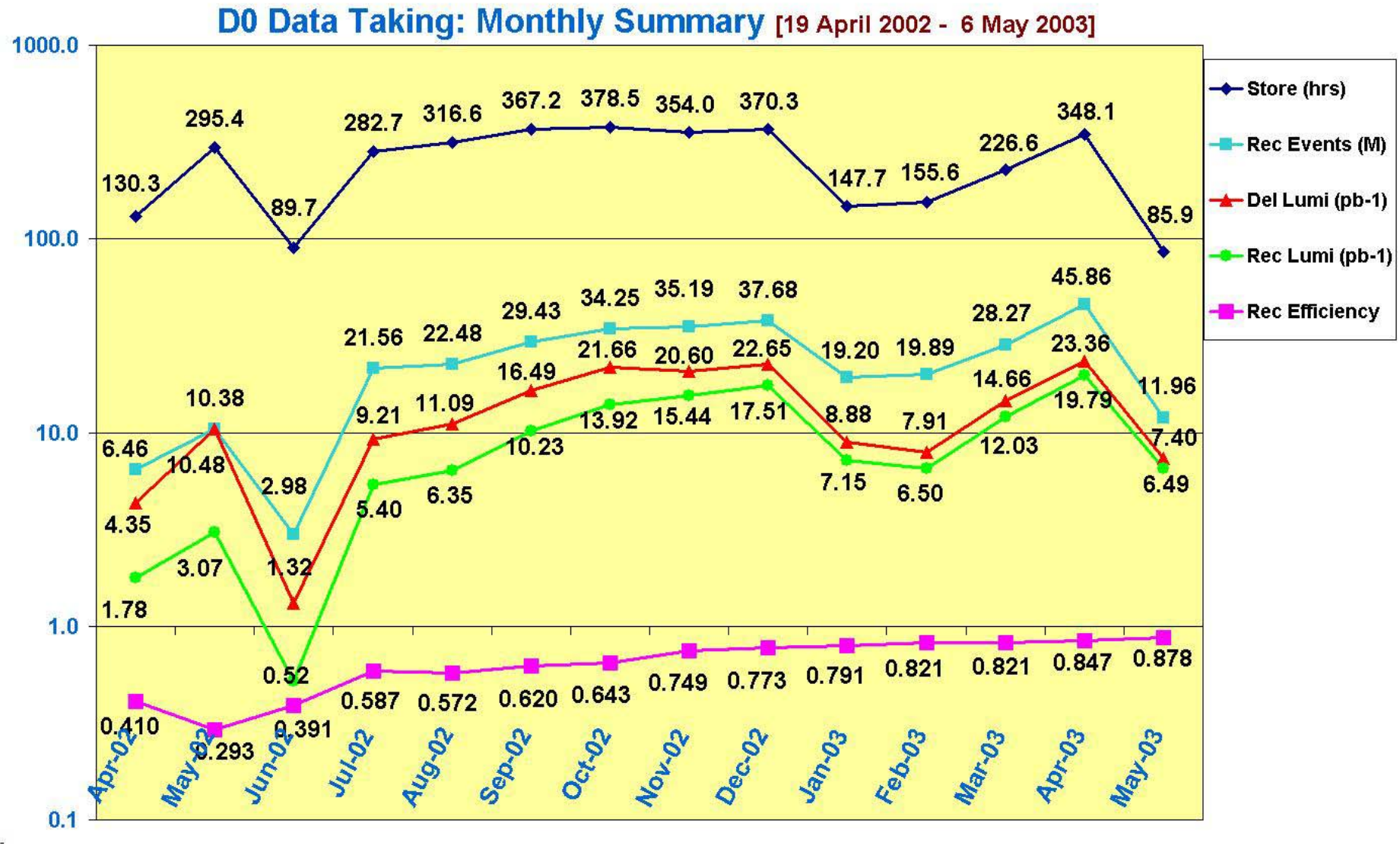
!!! Not a regular collaboration meeting !!!

Beaune Workshop Agenda

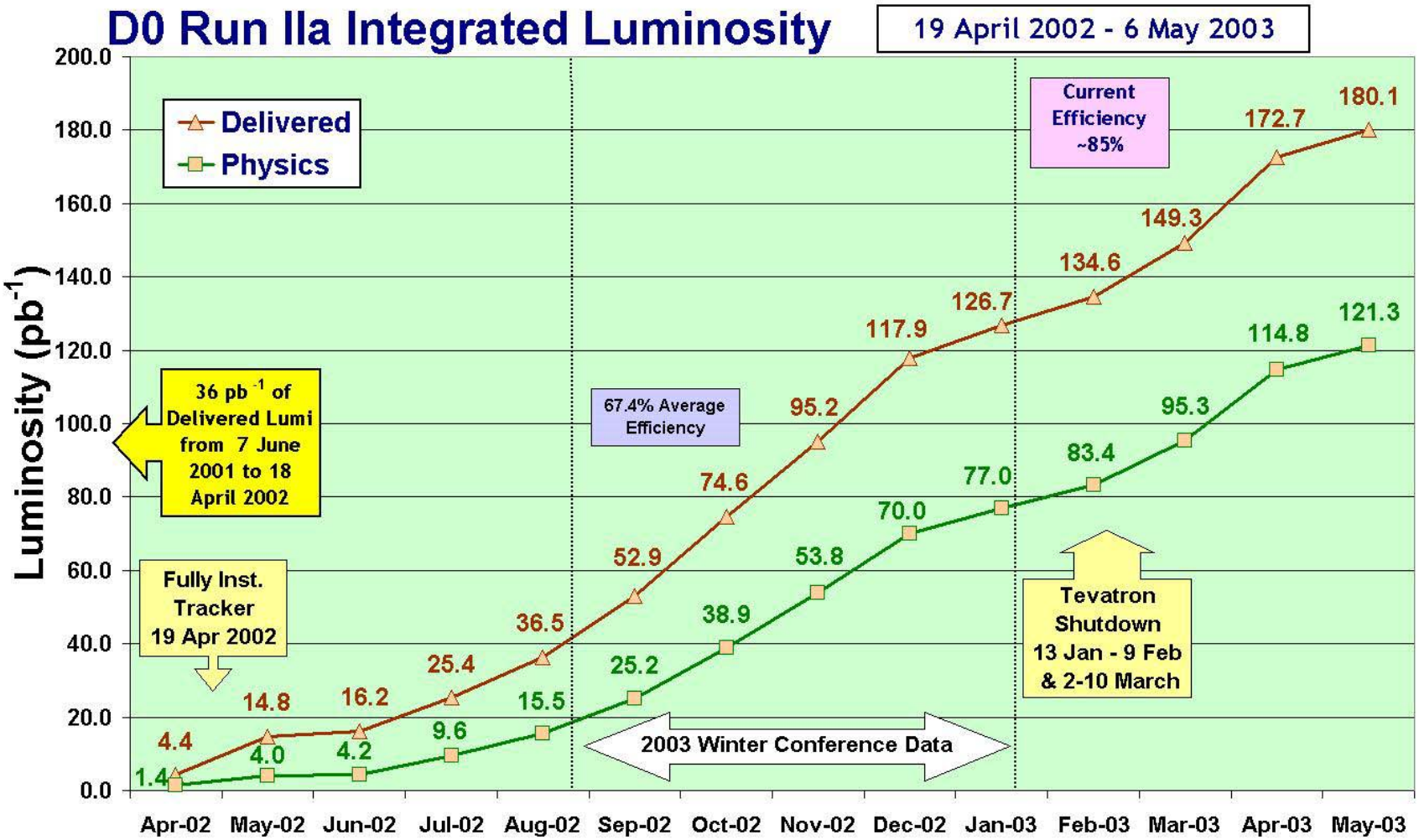
Day/Time	Mon June 16	Tues June 17	Wed June 18	Thurs June 19	Fri June 20
09.00 – 10.30	Registration Welcome Introduction Charge Computing/Remote Computing Data Quality	Operations Global Monitoring Online/Offline Monitoring for Data Quality	*Data Quality:* *Cal, Trk, FPD* *Remote Computing:* *Resources, Functionality, Use*	LHC: 1) LHC Status 2) ATLAS status and TeV overlap 3)CMS status and TeV overlap 4) LHC Theory	Run IIB Upgrade
10.30 – 11.00	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
11.00 – 12.30	Physics Groups meet in parallel	Detector Subsystems Status and Plans for Data Quality	*Data Quality* *L1/L2, L3, Lumi* *Remote Computing:* *Resources, Functionality, Use*	*General Data Quality* *Online, Offline* *General Remote Computing* *Reports, Discussion*	Summaries of Data Quality and Remote Computing
12.30 – 14.00	Lunch	Lunch	Lunch	Lunch	Lunch
14.00 – 15.45	Physics Requirements for Data Quality by group	*Data Quality:* *Cal, Muon, Trk* *Remote Computing:* *Resources, Functionality, Use*	Institutional Board (rooms available for Physics Groups)	*General Data Quality* *Online, Offline* *General Remote Computing* *Reports, Discussion*	Physics Highlights for Summer Conferences Conclusions
15.45 – 16.15	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
16.15 – 18.00	Object ID Status and Plans for Data Quality by group	*Data Quality:* *C/FPS, Muon, Beam* *Remote Computing:* *Resources, Functionality, Use*	Free (rooms available for Physics Groups)	Algorithms Monte Carlo Physics Organization	Depart

Physics processes for discussion of Data Quality

EW: W mass (eν channel)	EM ID (Hard electrons), MET at low SET	Calorimeter + preshower
EW: Asymmetry (muons)	MU ID	Muon system
QCD: High p_T jets	JES for E_T > 150 GeV	Calorimeter
QCD: Rapidity gaps	FPD	FPD
B: B_s oscillations	B ID (Soft jets)	SMT
B: CP violation	Tracking + vertexing	SMT + CFT
Top: Top mass	JES for E_T < 150 GeV	Calorimeter
Top: Single top	B ID (Hard jets), Jet ID	Calorimeter + SMT
Higgs: W/Z bb	JES for b jets	Calorimeter
Higgs: ττ channel	τ ID	CFT + Calorimeter + PS
NP: Trileptons	EM, MU, τ ID (Soft leptons)	Calorimeter + PS + Muon
NP: Jets + MET	Jet ID, MET at high SET	Calorimeter



- In this time period, we have 117 pb-1 & 288 Mevts of Physics
  - excluding "bad" Calorimeter sample from Jun 18-Aug 15 2002
  - but not correcting for Reco "losses" or bad runs (Muon, MET, etc.)



- By June 15 2003 we should have ~140 pb-1 & 350 Mevts of Physics
  - With silicon, tracker, calorimeter, muon → we will have better statistics than CDF by the end of June 2003 if not earlier
  - But CDF is showing now: Anomalous Coupling, Asymmetry, Di-Bosons, W/Z→τ's